UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,742	10/24/2006	Zvi Nitzan	12298/48503	2974

23838 7590 03/18/2008

KENYON & KENYON LLP
1500 K STREET N.W.
SUITE 700
WASHINGTON, DC 20005

EXAMINER	
KALAFUT, STEPHEN J	

ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
03/18/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,742	NITZAN ET AL.	
	Examiner	Art Unit	
	Stephen J. Kalafut	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *23-27* is/are allowed.

6)☒ Claim(s) *28-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *22 Sept 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claims 32 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation in claim 32 of two electrolytes, and in claim 33 where the electrolytes constitute respective ingredients for a self-forming separator is confusing. The two electrolytes of claim 32 appear to be precursors of the separator of claim 33. Thus, whether these claims are drawn to a cell precursor or the finished cell is unclear.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Akuto (US 4,889,777).

Akuto discloses an electrochemical cell in which the positive pole (12) and negative pole (13), spaced from each other by an electrolyte (15) and within the same plane (column 3, lines 37-41). The electrolyte is thus disposed on the two pole layers. The cell also includes a first substrate (11a), a second substrate (11b), and a separator (column 6, lines 56-59). How the separator was made is treated under product-by-process. See MPEP 2113 and the cases cited therein. The term "self-formed" is thus not given patentable weight, since it is a process limitation in a product claim, until shown that it necessarily confers a characteristic to the present product that is not also true of the prior art.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akuto in view of Kaun (US 5,219,673).

These claims, to the extent that they are understood, would include separator between the two electrodes, which also functions as an electrolyte. Claim 34 additionally recites that there is no other separator other than the one formed from the two electrolytes. Since these claims are evaluated for the characteristics of the product (MPEP 2113), they would encompass a cell in which the electrolyte is solid, no matter how it is formed. For claim 34, this would also mean that the solid electrolyte would be the sole separator between the electrodes. Kaun discloses an electrochemical cell in which electrode materials are interposed between each other, with a separator or electrolyte between them (column 4, lines 53-61). The separator or electrolyte (14) assumes a serpentine configuration (column 5, lines 41-42), and may be formed of materials such as polyethylene oxide (column 11, lines 36-38). Because the cell of Akuto also includes a separator in a serpentine configuration, it would be obvious to construct the cell of Akuto out of the materials, including the solid electrolyte, of Kaun. This arrangement would not use a second separately added separator.

Claims 23-27 are allowed. The prior art does not disclose or teach a method of forming such a cell by placing one ingredient on both positive and negative electrodes that are mutually coplanar and disposed on a single substrate, and a second ingredient on a second substrate, and bringing these together.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Luski *et al.* (US 7,335,441) and Shchori *et al.* (US 7,022,431) are the US equivalents of WO/017392, cited in the International Search Report. Luski *et al.* (US 6,752,842) discloses a method of making an electrochemical cell by lamination. The references cited in the International Search Report have been reviewed. Although they deal with self-formed separators for electrochemical cells, they do not teach a method of forming such a cell by placing one ingredient on both positive and negative electrodes that are mutually coplanar and disposed on a single substrate, and a second ingredient on a second substrate, and bringing these together. It is also noted that these references are cited against claims 1-24, of which claims 1-22 are cancelled.

The disclosure is objected to because of the following informalities: On page 24, the number 220 is used to denote both an "electrochemical cell" and a "self-formed separator". The number 62, mentioned on pages 25 and 26 of the specification, is not found in the drawings. The number 70 denotes a "polymer" on page 26, but a "polymer solution" in figure 3. Appropriate correction is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen J. Kalafut/
Primary Examiner, Art Unit 1795